

**In the Specification**

Please amend page 1, line 3, by inserting the following:

-- This application is a filing under 35 U.S.C. 371 of international application number PCT/GB2003/005576, filed December 19, 2003, which claims priority to application number 0229695.2 filed December 20, 2002, in Great Britain the entire disclosure of which is hereby incorporated by reference.--

Please amend page 20, line 1 as follows:

**Claims What is claimed is:**

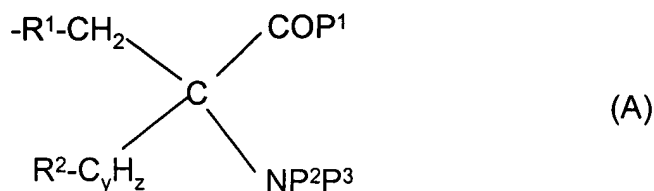
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

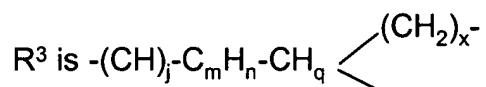
1. (Original) A process for the production of an  $^{18}\text{F}$ -labelled tracer which comprises treatment of a solid support-bound precursor of formula (I):



wherein the TRACER is of formula (A):

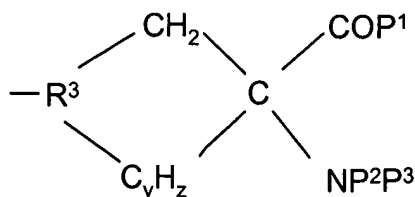


wherein  $\text{P}^1$  is hydroxy or a protecting group,  $\text{P}^2$  and  $\text{P}^3$  are independently hydrogen or a protecting group,  $\text{R}^1$  is a bond,  $-\text{CH}=\text{CH}-$ , or together with  $\text{R}^2$  forms  $\text{R}^3$ ;



$\text{R}^2$  is hydrogen or together with  $\text{R}^1$  forms  $\text{R}^3$ ;

such that



is formed

wherein  $x$  is 0 or 1;

$y$  is 1 or 2;

z is 1, 2, 3, or 4 and  $z > y$  if y is 2;

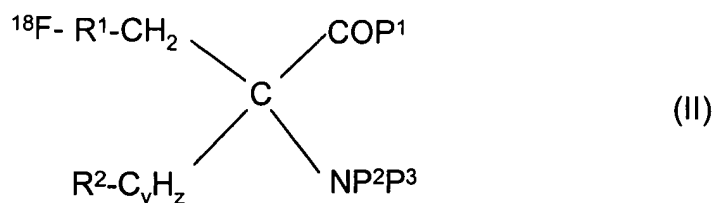
q is 1 or 0 if n is 1 and j is 0;

n is 1 or 2, but 0 if m is 0;

m is 0 or 1; and

j is 0 or 1;

with  $^{18}\text{F}^-$  to produce the labelled tracer of formula (II)



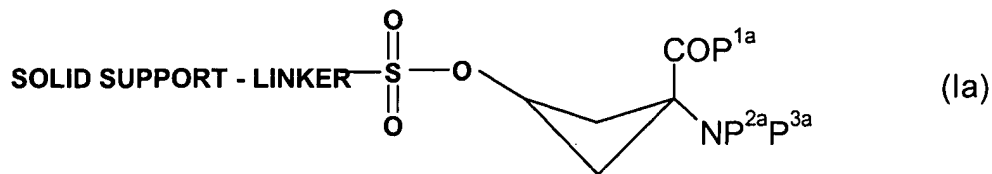
wherein  $\text{R}^1$ ,  $\text{R}^2$ , y, z,  $\text{P}^1$ ,  $\text{P}^2$  and  $\text{P}^3$  are as defined for the compound of formula (I), optionally followed by

- (i) removal of excess  $^{18}\text{F}^-$ , for example by ion-exchange chromatography; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (II) as an aqueous solution

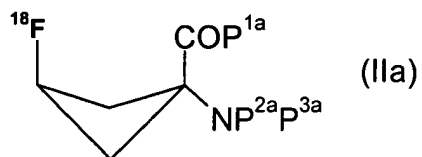
2. (Original) A process for the production of an  $^{18}\text{F}$ -labelled tracer according to claim 1 wherein  $\text{R}^1$  and  $\text{R}^2$  form the group  $\text{R}^3$ .

3. (Currently amended) A process for the production of an  $^{18}\text{F}$ -labelled tracer according to claim 1 ~~or 2~~ wherein  $\text{R}^1$  and  $\text{R}^2$  form the group  $\text{R}^3$  and x is 0, y is 1, z is 2, q is 1, m is 0 and j is 0.

4. (Currently amended) A process according to ~~any one of claims 1 to 3~~ claim 1 for the production of  $^{18}\text{F}$ -1-amino-3-fluorocyclobutane-1-carboxylic acid ( $^{18}\text{F}$ -FACBC) which comprises treatment of a solid support-bound precursor of formula (Ia):



wherein  $P^{2a}$  and  $P^{3a}$  are each independently hydrogen or a protecting group, and  $P^{1a}$  is hydroxyl or a carboxylic acid protecting group;  
with  $^{18}\text{F}^-$  to produce the labelled tracer of formula (IIa)

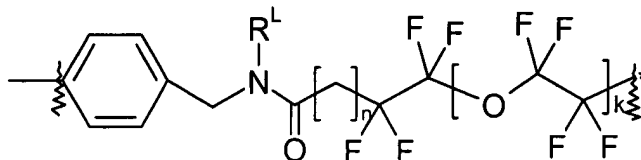


wherein  $P^{1a}$ ,  $P^{2a}$ , and  $P^{3a}$  are each as defined in Formula (Ia);

optionally followed by

- (i) removal of excess  $^{18}\text{F}^-$ , for example by ion-exchange chromatography; and/or
- (ii) removal of the protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IIa) as an aqueous solution.

5. (Original) A process according to claim 4 wherein the LINKER in the compound of formula (Ia) is



wherein  $k$  is an integer of 0 to 3,  $n$  is an integer of 1 to 16, and  $R^L$  is hydrogen or  $\text{C}_{1-6}$  alkyl.

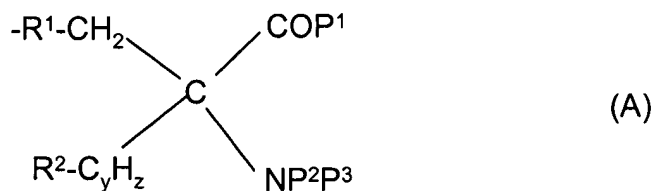
6. (Currently amended) A process according to claim 4 or 5 in which  $P^{1a}$  is  $\text{C}_{1-6}$ alkoxy,  $P^{2a}$  is hydrogen or  $\text{C}_{1-6}$ alkoxycarbonyl, and  $P^{3a}$  is  $\text{C}_{1-6}$ alkoxycarbonyl.

7. (Currently amended) A process for the production of a  $^{18}\text{F}$ -labelled tracer of formula (II) ~~or (IIa)~~, according to ~~any one of claims 1 to 6~~ claim 1, for use in PET.

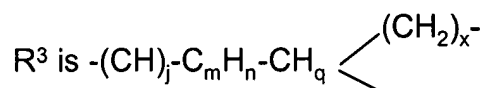
8. (Original) A compound of formula (I)



wherein the TRACER is of formula (A):

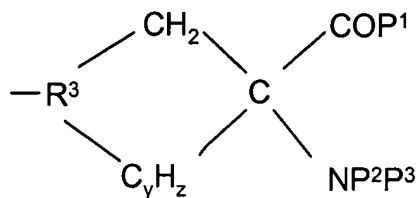


wherein  $\text{P}^1$  is hydroxy or a protecting group,  $\text{P}^2$  and  $\text{P}^3$  are independently hydrogen or a protecting group,  $\text{R}^1$  is a bond,  $-\text{CH}=\text{CH}-$ , or together with  $\text{R}^2$  forms  $\text{R}^3$ ;



$\text{R}^2$  is hydrogen or together with  $\text{R}^1$  forms  $\text{R}^3$ ;

such that



is formed

wherein  $x$  is 0 or 1;

$y$  is 1 or 2;

$z$  is 1, 2, 3, or 4 and  $z > y$  if  $y$  is 2;

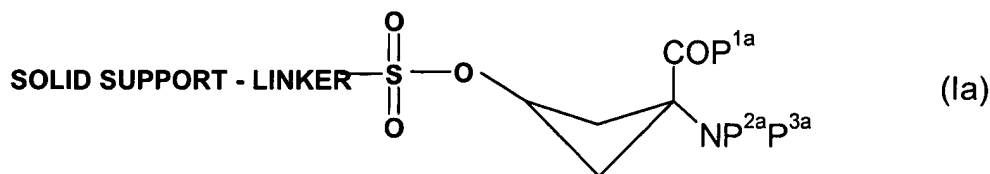
$q$  is 1 or 0 if  $n$  is 1 and  $j$  is 0;

$n$  is 1 or 2, but 0 if  $m$  is 0;

$m$  is 0 or 1; and

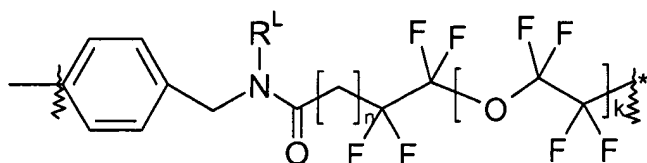
$j$  is 0 or 1.

9. (Original) A compound of formula (Ia):



wherein P<sup>2a</sup> and P<sup>3a</sup> are each independently hydrogen or a protecting group, and P<sup>1a</sup> is hydroxyl or a protecting group.

10. (Currently amended) A compound according to claim 8 ~~or 9~~ in which the LINKER is



wherein k is an integer of 0 to 3, n is an integer of 1 to 16, and R<sup>L</sup> is hydrogen or C<sub>1-6</sub> alkyl.

11. (Currently amended) A compound according to ~~any one of claims 8 to 10~~ claim 8, in which P<sup>1a</sup> is C<sub>1-6</sub>alkoxy, P<sup>2a</sup> is hydrogen or C<sub>1-6</sub>alkoxycarbonyl, and P<sup>3a</sup> is C<sub>1-6</sub>alkoxycarbonyl.

12. (Currently amended) A radiopharmaceutical kit for the preparation of an <sup>18</sup>F-labelled tracer for use in PET, which comprises:

- (i) a vessel containing a compound of formula (I) or (Ia) as defined in ~~any one of claims 1 to 6~~ claim 1; and
- (ii) means for eluting the vessel with a source of <sup>18</sup>F<sup>-</sup> ;
- (iii) an ion-exchange cartridge for removal of excess <sup>18</sup>F<sup>-</sup>; and optionally
- (iv) a cartridge for solid-phase deprotection of the resultant product of formula (II) or (IIa) as defined in ~~any one of claims 1 to 6~~ claim 1.

13. (Currently amended) A cartridge for a radiopharmaceutical kit for the preparation of an  $^{18}\text{F}$ -labelled tracer for use in PET which comprises:

- (i) a vessel containing a compound of formula (I) ~~or (Ia)~~ as defined in ~~any one of claims 1 to 6~~ claim 1; and
- (ii) means for eluting the vessel with a source of  $^{18}\text{F}^-$ .

14. (Currently amended) A method for obtaining a diagnostic PET image which comprises the step of using a radiopharmaceutical kit according to claim 12 ~~or a cartridge for a radiopharmaceutical kit according to claim 13~~.

15. (New) A method for obtaining a diagnostic PET image which comprises the step of using a cartridge for a radiopharmaceutical kit according to claim 13.